

fractions Sideways, I tried what would be the Effects of such a second Refraction. For this end I ordered all things as in the third Experiment, and then placed a second Prism immediately after the first in a cross Position to it, that it might again refract the beam of the Sun's Light which came to it through the first Prism. In the first Prism this beam was refracted upwards, and in the second Sideways. And I found that by the Refraction of the second Prism the breadth of the Image was not increased, but its superior part which in the first Prism suffered the greater Refraction and appeared violet and blew, did again in the second Prism suffer a greater Refraction than its inferior part, which appeared red and yellow, and this without any Dilation of the Image in breadth.

*Fig. 14. Illustration.* Let S represent the Sun, F the hole in the Window, A B C the first Prism, D H the second Prism, Y the round Image of the Sun made by a direct beam of Light when the Prisms are taken away, P T the oblong Image of the Sun made by that beam passing through the first Prism alone when the second Prism is taken away, and *pt* the Image made by the cross Refractions of both Prisms together. Now if the Rays which tend towards the several Points of the round Image Y were dilated and spread by the Refraction of the first Prism, so that they should not any longer go in single Lines to single Points, but that every Ray being split, shattered, and changed from a Linear Ray to a Superficies of Rays diverging from the Point of Refraction, and lying in the Plane of the Angles of Incidence and Refraction, they should go in those Planes to so many Lines reaching almost from one end of the Image P T to the other, and if that Image should thence become oblong: those Rays and their several parts tending towards the several Points of the

the Image P T ways by the trans as to compose a at  $\pi$ . For the b P T be distinguish LRSM, MSV that the Orbicula Prism dilated an the Light P Q K and breadth wi ction of the seco long Image  $\pi q k$  Image  $k q r l$ , an into so many oth all these long Im  $\pi$ . Thus it ou fraction, and sp diverging from Refraction wou first doth anothe much as the fir ought to happen than others. But was not made b Prism, but only its upper end P greater distance t which went towa (at equal Inciden than the Light that is the blew a therefore was mo the Refraction of